[Proc. Roy. Soc. Victoria, 31 (N.S.), Part I, 1918].

Art. II.—*Teratological Note.*

Pentamery in a Flower of Narcissus.

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[Read March 14th, 1918].

In the specimen before us—"*Narcissus tazetta* ("Soleil d'or," a polyanthus Narcissus of the "parvi-coronati" group)—we have an inflorescence in which one of the flowers simulates a dicotyledonous bloom. It is the only one of the kind seen by me, although many thousands of blooms were examined during the past spring season.

The term "doubling," as used by many gardeners, denotes multiplicity of any floral part, usually the petals, but by arithmetical doubling we should have, in place of a flower with floral formula (K3; C3; A3 + 3; G3) one with formula (K6; C6; A6 + 6; G6), a phenomenon explained as due to a splitting of the primordial papillae from which the organs develop; but instead of the formula indicative of the simple type or its double, we have in the present specimen (K5; C5; A5 + 5; G5).

The size of the perianth lobes, or corona, relative position of the whorls, length of ovary and perianth tube, and length of the five stigmatic lobes are all normal. It is a case of regular polyphylly affecting—not the number of whorls, but the members only, so that we may avoid the use of the comprehensive term, "positive dédoublement" (of Celakovsky), which Worsdell[1] perpetuates. But the numerical increase of whorl members has resulted in a conspicuously larger flower of which the coronal diameter is disproportionate to the diameter of the perianth; these compared with the normal being respectively as [15 mm. : 7 mm.] and [35 mm. : 25 mm.] The corona shows no sign of division or dismemberment into staminoid or petaloid units. The increased diameter of the flower is due not to increased length of perianth segments, but to these parts having been thrust farther out by the expansion of the perianth tube ("zona perigyna") to accommodate the increased number of essential organ of fertilisation. These latter are so crowded in the orifice of the tube as to choke it, and when the flower was fresh

1. W. C. Worsdell, F.L.S. "Principles of Teratology, Roy. Soc., 1916."

and its parts undisturbed, the entrance pores (which may be found as inter-antheral spaces in a normal bloom) were almost obliterated. It would have been difficult, if not impossible, for the tongue of a lepidopterous agent to be thrust through, yet in the attempt sufficient pollen could have been conveyed thence by the baffled insect to effect cross pollination. After almost exhaustive inquiry, I have found only one record of an occurrence somewhat similar, though both irregular and rhythmic polyphylly have been recorded for Narcissus and other allied plants; and I have seen, but failed to preserve, flowers of *Narcissus* answering to the following formulae :— (K3 ; C4 ; A3 + 3 ; G3), (K3 ; C3 ; A3 + O; G3), and (K or C3; A3 + 3; G3), cases in which the modication appears to have been due to suppression of a whorl or a member, or (as in the first case) an increase, on no clearly discernible plan. Worsdell,[1] however, records an approximate case of polyphylly of *Crocus* :—K4 ; C4 ; A4 ; G4 and K5 ; C5 ; A5 ; G5, and of *Tulipa*, K4 ; C4 ; A4 + 4 ; G5. Also, he quotes Buchanan as having described the like, observed in *Lilium croceum*. It may be noted here that Worsdell[2] associates rhythmic alternation in increase of members of whorls, such as :—

K5 ; C4 ; A5 + 4 ; G5 (*Tulipa*)
K3 ; C4 ; A3 ; G4 (*Crocus*)
K4 ; C3 ; A4 + 3 ; G4 (*Galanthus*)

with heterotaxis of a spiral nature. Church,[3] on the other hand, finds in the early development stage of *Narcissus* a normal asymmetry and spiral formation which, however, disappear during the maturation of the flower. In the present case there is no visible spiral taxis or torsion.

1. Loc. cit.
2. Loc. cit.
3. A. H. Church, M.A., D.Sc. "Types of Floral Mechanism, Pt. I., 1908."